- (5) Impressed current cathodic protection system electrodes in gas-tight enclosures.
- (f) A space that is separated by a gastight steel boundary from a hold space that has a cargo tank that must have a secondary barrier, under the requirements of §154.459, may only have:
 - (1) Through runs of cable;
 - (2) Explosion-proof lighting fixtures;
- (3) Depth sounding devices in gastight enclosures;
- (4) Log devices in gastight enclosures:
- (5) Impressed current cathodic protection system electrodes in gastight enclosures;
- (6) Explosion-proof motors that operate cargo system valves or ballast system valves; and
- (7) Explosion-proof bells for general alarm systems.
- (g) A cargo handling room may only have:
- (1) Explosion-proof lighting fixtures; and
- (2) Explosion-proof bells for general alarm systems.
- (h) A space for cargo hose storage may only have:
- (1) Explosion-proof lighting fixtures; and
- (2) Through runs of cable.
- (i) A space that has cargo piping may only have:
- (1) Explosion-proof lighting fixtures; and
 - (2) Through runs of cable.
- (j) A gas-dangerous zone on the weather deck may only have:
- (1) Explosion-proof equipment that is for the operation of the vessel; and
 - (2) Through runs of cable.
- (k) A space, except those under paragraphs (e) through (j) of this section, that has a direct opening to a gas-dangerous space or zone may only have the electrical equipment allowed in the gas-dangerous space or zone.

§ 154.1015 Lighting in gas-dangerous space.

- (a) Each gas-dangerous space that has lighting fixtures must have at least two branch circuits for lighting.
- (b) Each switch and each overcurrent protective device for any lighting circuit that is in a gas-dangerous space

must open each conductor of the circuit simultaneously.

(c) Each switch and each overcurrent protective device for lighting in a gasdangerous space must be in a gas-safe space.

§154.1020 Emergency power.

The emergency generator must be designed to allow operation at the final angle of heel under §154.230(a).

FIREFIGHTING

Firefighting System: Exterior Water Spray

§ 154.1105 Exterior water spray system: General.

Each liquefied flammable gas vessel and each liquefied toxic gas vessel must have an exterior water spray system that meets §§154.1110 through 154.1135.

§154.1110 Areas protected by system.

Each water spray system must protect:

- (a) All cargo tank surfaces that are not covered by the vessel's hull structure or a steel cover:
 - (b) Each cargo tank dome;
- (c) Each on-deck storage vessel for flammable or toxic liquefied gases;
- (d) Each cargo discharge and loading manifold;
- (e) Each quick-closing valve under §§154.530, 154.532, and 154.538, and other control valves essential to cargo flow:
- (f) Each boundary facing the cargo area of each superstructure that contains accommodation, service, or control spaces:
- (g) Each boundary facing the cargo area of each deckhouse that contains accommodation, service, or control spaces; and
- (h) Each boundary of each deckhouse that is within the cargo area and that is manned during navigation of the vessel or during cargo transfer operations, except the deckhouse roof if it is 2.4 m (8 ft.) or higher above the cargo containing structure.

[CGD 74–289, 44 FR 26009, May 3, 1979; 44 FR 59234, Oct. 15, 1979]

§ 154.1115 Discharge.

(a) The discharge density of each water spray system must be at least: